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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/993,623	11/27/2001	Tomoki Takahashi	Q67303	8239

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SUGHRUE, MION, ZINN, MACPEAK & SEAS  
2100 Pennsylvania Avenue, N.W.  
Washington, DC 20037

EXAMINER

NGUYEN, HANH N

ART UNIT	PAPER NUMBER
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2834

DATE MAILED: 09/24/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

09/993,623

Applicant(s)

TAKAHASHI ET AL.

Examiner

Nguyen N Hanh

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 10 July 2002.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-8 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-8 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 10 July 2002 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.  
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☒ All b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).  
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

## Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_ 6) ☐ Other: \_\_\_\_\_

**DETAILED ACTION**

***Remarks***

1. In view of Amendment, The Examiner withdraws the objections to the drawings and to the specification.

***Response to Arguments***

2. Applicant's arguments with respect to claim 1 have been considered but are moot in view of the new ground(s) of rejection.

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1-3, 5-7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tomoyoshi (Japanese Patent Laid Open No. 51-66409) in view of the applicant's admitted prior art.

Regarding claim 1, Tomoyoshi shows an alternator comprising: a case; a shaft passing through said case; a rotor secured to said shaft, said rotor including a rotor coil for generating a magnetic flux on passage of an electric current therethrough, and a plurality of claw-shaped magnetic poles extending in an axial direction and radially surrounding said rotor coil, said claw-shaped magnetic poles being magnetized into North and South poles by said magnetic flux (inherent because this rotor is a claw-shaped poles rotor); a stator including a stator core (17) provided with a plurality of slots

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formed so as to extend axially and be spaced circumferentially, and a stator winding mounted to said stator core; slip rings secured to said shaft; brushes (8) the ends of which slide on the slip rings supplying electric current to said rotor coil through said slip rings from an electric power supply, a brush holding assembly (5), said brush holding assembly holding said brushes within a holding portion and provided with a cover (6) capable of being opened to remove said brushes; and a cap (15) for closing an open portion (14) of said case for removal and insertion of said brushes, said open portion being formed at a position on said case facing said cover (Fig. 1).

Tomoyoshi fails to show one of said cap and said case including means for directing airflow in the vicinity of said brushes.

However, the applicant's admitted prior art discloses an alternator wherein the case includes means (apertures 29 in Fig. 20)) for directing air flow in the vicinity of said brushes for the purpose of cooling the brushes.

Since Tomoyoshi and the applicant's admitted prior art are in the same field of endeavor, the purpose disclosed by the applicant's admitted prior art would have been recognized in the pertinent art of Tomoyoshi.

It would have been obvious at the time the invention was made to a person having an ordinary skill in the art to modify Tomoyoshi by making an opening on the rear end of the case for directing airflow as taught by the applicant's admitted prior art for the purpose of cooling the brushes.

Regarding claim 2, Tomoyoshi also discloses the motor wherein said brush holding assembly extends to a vicinity of said open portion (Fig. 1).

Regarding claim 3, the applicant's admitted prior art also show the alternator wherein a regulator (13 in Fig. 18 of the applicant's disclosure) for adjusting the magnitude of an alternating voltage generated in said stator and a cooling plate (14) placed in contact with said regulator are disposed on said brush holding assembly.

Regarding claim 5, the applicant's admitted prior art also show the alternator wherein a partition wall (the portion of bracket 2 facing the regulator and the cooling plate of Fig. 18) for making the cooling air passing through said cooling plate take a circuitous route toward said brushes is provided.

Regarding claim 6, the alternator disclosed by Tomoyoshi, modified by the applicant's admitted prior art, would have a partition wall to be integral with said cap.

Regarding claim 7, the applicant's admitted prior art also show the alternator wherein a cooling fan (5b in Fig. 20 of the applicant's disclosure) to generate forced convection in said case is provided between said rotor and said brush holding assembly.

4. Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Tomoyoshi in view of the applicant's admitted prior art and further in view of Kashiwara et al.

Regarding claim 4, the alternator disclosed by Tomoyoshi, modified by the applicant's admitted prior art shows all limitations of the claimed invention except showing an alternator wherein said cooling plate is provided with plural cooling fins extending in a radial direction of said rotor.

However, Kashihara et al. discloses an alternator comprised the heat sink (17) provided with plural cooling fins extending in a radial direction of said rotor (Col. 5, lines 62-67 and Fig. 6) for the purpose of improving cooling.

Since Tomoyoshi, the applicant's admitted prior art, and Kashihara et al. are in the same field of endeavor, the purpose disclosed by Kashihara et al. would have been recognized in the pertinent art of Toyomoshi and the applicant's admitted prior art.

It would have been obvious at the time the invention was made to a person having an ordinary skill in the art to modify Tomoyoshi and the applicant's admitted prior art by providing plural cooling fins to the heat sink as taught by Kashihara et al. for the purpose of improving cooling.

5. Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over Tomoyoshi in view of the applicant's admitted prior art and further in view of Umeda et al.

Regarding claim 8, the alternator disclosed by Tomoyoshi, modified by the applicant's admitted prior art shows all limitations of the claimed invention except showing the alternator wherein conductors of said stator winding extend outwardly in an axial direction from an end surface of said stator core and are formed into coil ends having a uniform shape in a circumferential direction.

However, Umeda et al. discloses an alternator wherein conductors of said stator winding extend outwardly in an axial direction from an end surface of said stator core and are formed into coil ends having a uniform shape in a circumferential direction for the purpose of improving cooling (Fig. 10).

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Since Tomoyoshi, the applicant's admitted prior art and Umeda et al. are in the same field of endeavor, the purpose disclosed by Umeda et al. would have been recognized in the pertinent art of Tomoyoshi and the applicant's admitted prior art.

It would have been obvious at the time the invention was made to a person having an ordinary skill in the art to modify Tomoyoshi and the applicant's admitted prior art by forming a stator with conductors of said stator winding extend outwardly in an axial direction from an end surface of said stator core and are formed into coil ends having a uniform shape in a circumferential direction as taught by Umeda et al. for the purpose of improving cooling.

### ***Conclusion***

6. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

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***Information on How to Contact USPTO***

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hanh N Nguyen whose telephone number is (703)305-3466. The examiner can normally be reached on Monday through Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nestor Ramirez can be reached on (703)308-1371. The fax phone numbers for the organization where this application or proceeding is assigned are (703)305-3431 for regular communications and (703)305-3431 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703)308-1782.

HNN

September 19, 2002

  
NESTOR RAMIREZ  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 280